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Addendum

Contribution by women**

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I. Introduction

1. The present discussion paper is the contribution of the women major group and is based on the expertise of non-governmental organization experts and the experience of women working on the relevant issues. It was circulated in non-governmental organization and women's networks and also includes their positions and ideas.

2. Gender equality is a manifestation of social justice and a prerequisite for sustainable development; therefore, gender equality and women's empowerment are central elements of all debates and issues of the Commission on Sustainable Development. The women major group seeks to mainstream gender and enhance the participation of women in all stages of development, thus contributing directly to the achievement of Millennium Development Goal 3.

3. One objective is the equal participation of women and men in the debate relating to sustainable development. Women are still significantly underrepresented in such debates, and their specific needs are insufficiently recognized. Every day, however, they have to deal with the consequences of decisions made mainly by men.

4. Furthermore, gender-disaggregated data offer important benchmarks to assess the impact of interventions. The degree to which women and men benefit equally from development practices forms an integral part of the success of sustainable poverty reduction efforts.

5. All issues of the present cycle of the Commission on Sustainable Development have an impact on women and their lives, and women are key to solving the related problems. Women are important agents and driving forces of change.

6. Chemicals, mining, waste and transport affect women and their families, especially their health, living conditions, quality of life and human rights, every day.

7. Women are the main consumer group and are important small-scale producers; therefore, all discussions related to sustainable consumption and production need to involve them from the start.

II. Chemicals

A. Concrete action by non-governmental organizations since the adoption of the Plan of Implementation of the World Summit on Sustainable Development

8. Many non-governmental organizations and women's networks worldwide dedicate their work to achieving a non-toxic world and a healthy environment for all. They work at the local, national, regional and international levels. Their activities include advocacy work (e.g., at United Nations meetings, in the Strategic Approach to International Chemicals Management and at the Intergovernmental Forum on Chemical Safety), awareness-raising (e.g., informing and educating the general public, State authorities and businesses), science (e.g., cooperating with academia and publishing scientific studies) and field projects (e.g., identifying "hot spots" of persistent organic pollutants and hazardous chemicals in products). Their roles vary from that of watchdog to critical partners of innovative companies.

9. Women are very active in the chemicals issue, since they and their children are highly affected, more so than average, by hazardous chemicals that might cause cancer, developmental disorders and other severe diseases, or that might contaminate air, water and soil, thus affecting livelihoods. Women often play the leading role in advocacy work and awareness-raising in affected communities and among vulnerable groups and in the improvement of information.

B. Obstacles to and constraints on implementation

1. Adequate information on toxic chemicals is still not available

10. Chapter 19 of Agenda 21 emphasizes that: "The broadest possible awareness of chemical risks is a prerequisite for achieving chemical safety." Nearly two decades since the adoption of Agenda 21, however, very little information exists on the approximately 80,000 to 100,000 chemicals currently in use.

2. Toxic chemicals in products threaten human health

11. Harmful chemicals in products have become a global problem, as a result of international trade. Examples include children's toys, textiles and clothing, furnishings and carpets, jewellery, electronics, furniture and cleaning supplies. Vulnerable groups, such as children and pregnant women, are at particular risk from exposure to a variety of substances contained in these products. There is no global system for providing users with information on chemicals in products, despite the fact that Rio Principles 10 and 15 call for such a system. Hundreds of contaminants are not listed as ingredients by manufacturers, which results in additional threats to the health of vulnerable groups. Although the European Union regulation on the registration, evaluation, authorization and restriction of chemical substances (REACH) is a step in the right direction, it only has effect in Europe.

3. Key principles for chemical regulatory policy are not widely implemented

12. Broad incorporation of the four core principles of chemical regulatory policy has not occurred. For example:

(a) "No data, no market" requires that a comprehensive set of data and information about a chemical be made available to regulators and to users before it can be sold;

(b) Effective implementation of "the right to know" (see, for example, the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, which would provide a good global framework for information worldwide) would provide data about the health and environmental impacts of chemicals to Governments and the general public;

(c) The "progressive substitution of the most dangerous chemicals", when suitable alternatives have been identified, creates economic incentives for enterprises that are able to bring safer alternatives onto the market;

(d) The "precautionary principle" underpins the idea that manufacturers, importers and users should ensure that the chemicals they produce, market or use do not adversely affect human health or the environment. Nearly two decades after Rio Principle 15 recommended the implementation of the "precautionary principle",

however, political pressure has converted its use into a debate about whether action can be taken if there is uncertainty.

4. Inadequate participation of civil society in decision-making

13. Public participation in chemical assessment and management is still inadequate, lacking in resources and commitment, and is not consistent with Rio Principle 10.

5. Highly hazardous pesticides and their obsolete stockpiles harm human health and the environment

14. In many developing and transition countries, pesticides are the largest source of chemical exposure, resulting in harm to human health and the environment.[1] In South and South-East Asia, nearly half of the workforce (including 70 to 80 per cent of women) is involved in agriculture; in sub-Saharan Africa, two thirds of all employed workers engage in agricultural activities.[2] Many countries have inherited tens of thousands of tons of obsolete pesticides, which now pose a serious threat to human health and the environment.[3] The Food and Agriculture Organization of the United Nations Code of Conduct has not been fully implemented, and the progressive banning of highly hazardous pesticides has not occurred.

6. Global contamination of fish with mercury

15. Fish is a staple food in many parts of the world, including in Asia, Africa and small island developing States; however, fish are widely contaminated with mercury, which is highly toxic to humans, especially children, pregnant women and women of childbearing age. Mercury is traded globally. It is used in many products (e.g., thermometers, switches and dental fillings) and processes (e.g., chlor-alkali plants and artisanal and small-scale gold-mining), and is eventually emitted from coal-fired power plants, incinerators, cement kilns and contaminated sites.

7. Developing countries and countries in transition need financial and technical resources for sound chemicals management

16. Available funds are not sufficient for sound chemicals management in developing countries and countries in transition. Many countries have substantial legacy issues, such as obsolete pesticide stockpiles and contaminated sites. Many countries require long-term development of infrastructure and capacity. New and additional funds need to be long-term and sustainable in order to have a lasting impact. New approaches for information and education are needed, as, for example, in Suriname, where small-scale gold miners are being educated on alternative ways of mining.

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[1] J. Jeyaratnam, in "Acute pesticide poisoning: a major global health problem", in *World Health Statistics Quarterly*, vol. 43, No. 3 (1990), pp. 139-144 (available from www.communityipm.org/toxictrail/Documents/Jeryaratnam-WHO1990.pdf), estimates 1 million cases of serious unintentional pesticide poisonings each year.

[2] International Labour Organization, *Key Indicators of the Labour Market*, 5th ed. (Geneva, International Labour Office, 2007).

[3] "Citizens' report: global outreach campaign on the strategic approach to international chemicals management", prepared by the International Persistent Organic Pollutants Elimination Network (April 2009); available from www.ipen.org/campaign/documents/citzreport_09.pdf.

8. Chemical safety has not been successfully integrated into sustainable development planning

17. In 2006, ministers of environment and health from more than 100 countries, along with representatives of the private sector and civil society, finalized the Strategic Approach to International Chemicals Management. In the Dubai Declaration on International Chemicals Management, they reaffirmed that there was a critical link between chemical safety, sustainable development and poverty eradication.[4] To date, this commitment has not been fulfilled. Donor countries insist on country-driven programmes and say that, if developing countries do not prioritize sound chemicals management, then donor countries cannot grant the money. On the other hand, officials from developing countries who understand the link and recognize its importance often find themselves in ministries that have limited capacity or are politically weak. Besides that, how many causes can one prioritize? It should be sufficient that chemicals management comprises part of health policy. Support for chemical safety becomes unpredictable, as it is delivered on a project-by-project basis instead of occupying a place at the core of economic and development policies at senior Government levels.

9. Internalization of costs has not been broadly implemented

18. The "polluter pays" principle (Rio Principle 16) and its application to the internalization of the costs of chemicals management is widely supported but not broadly implemented. When chemicals are produced or used in a country, it is an obligation of the Government of that country to ensure that human health and the environment are not harmed as a result of chemical exposure or chemical accidents. The costs Governments incur in fulfilling this obligation are economic externalities that arise as a result of economic decisions by industry to manufacture and use chemicals.[5] Without internalization, the costs that Governments incur for sound chemicals management amount to a subsidy of the private sector. The global chemicals industry has an annual turnover of approximately $3.1 trillion per year (trillion = thousand billion). If a global cost recovery scheme yielded only 0.1 per cent of the industry's annual turnover, more than $3 billion would be available for sound chemicals management.

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[4] Paragraph 1 of the Dubai Declaration states that: "The sound management of chemicals is essential if we are to achieve sustainable development, including the eradication of poverty and disease, the improvement of human health and the environment and the elevation and maintenance of the standard of living in countries at all levels of development."

[5] Externalized costs include those related to legacy issues, such as obsolete stockpiles and contaminated sites; children whose development has been impaired as a result of prenatal and post-natal chemical exposure; others whose health has been injured as a result of chemical exposure; those providing health-care services to such people when the injured are not able to pay for the services; property owners or users whose property value or utility decreases as a result of chemical contamination; fishers, hunters, small farmers and others whose livelihoods are impaired by chemical contamination; indigenous peoples whose way of life has been undermined through contamination of their traditional foods; and people whose water supply is contaminated. Externalities of modern agriculture can include depletion of water, soil and biodiversity, pollution by pesticides and fertilizers and the resulting economic and social costs to communities.

10. Liability and compensation

19. The Strategic Approach to International Chemicals Management is the principal political programme of action for implementing the Plan of implementation of the World Summit on Sustainable Development ("Johannesburg Plan of Implementation"), Agenda 21 and the Rio principles; during its negotiation, however, a small number of developed countries opposed any inclusion of liability and compensation, as outlined in Rio Principle 13.

11. Children's health

20. Children are more at risk of chemical exposure than adults, because they have higher respiration and metabolic rates, they eat and drink more in proportion to their bodyweight and they live closer to the ground (crawling, digging in dirt and putting objects in their mouths). Children younger than the age of 4 have the highest levels of persistent organic pollutants in their blood, such as brominated flame retardants (penta-BDE and octa-BDE). Research has demonstrated that babies born in developed countries have many synthetic chemicals in umbilical cord blood and meconium at the time of their birth. The World Health Organization, the United Nations Children's Fund and the United Nations Environment Programme have identified a growing number of health effects on children that result from exposure to hazardous chemicals.[6] Despite this, most chemicals used have not been adequately tested for their harm to children's health; neither has the combined impact of different chemicals.

12. Policy synergy

21. Considering the integration of the Stockholm Convention on Persistent Organic Pollutants ("Stockholm Convention"), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the goals of the Strategic Approach to International Chemicals Management for 2020 and the fifteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Copenhagen in December 2009, and the Millennium Development Goals targets for 2015, countries need to restructure their national policies and implementation plans so as to direct them towards a more preventive approach rather than a curative and responsive approach.

C. Challenges

1. New chemicals: nanomaterials

22. Although there is still a lack of information on existing chemicals, there are many new ones entering the market. Nanomaterials are probably the most prominent ones. Nanomaterials and other new chemicals are used in a wide range of domestic, industrial and food products without adequate information being provided on their

[6] These include asthma, birth defects, hypospadias, behavioural disorders, learning disabilities, autism, cancer, dysfunctional immune systems, neurological impairments and endocrine and reproductive disorders.

safety.[7] Neither workers nor consumers have sufficient information. No products containing nanomaterials are labelled as such.

2. Cumulative effects and low-dose effects

23. New health concerns on the cumulative effects and low-dose effects of chemicals, especially of endocrine disruptors, are emerging. Very little is known about the effects of cocktails of chemicals. All this has to be taken into account in risk analyses and risk assessments. More scientific research on these effects is needed.

III. Waste management

A. Concrete action by non-governmental organizations, as well as the women sector, since the adoption of the Johannesburg Plan of Implementation

24. In the last 10 years, some progress has been seen in several countries with regard to waste management. Several developing countries have demonstrated the active participation of women's (grass-roots) organizations, communities and non-governmental organizations in tackling waste problems. As waste is more and more regarded as a valuable resource, more communities are becoming involved in community-based waste management, which is a step forward in social and economic development at the micro level. Some successful initiatives have taken place in India through Exnora and women's self-help groups, in Bangladesh through Waste Concerns, in Indonesia through KIPRAH (a community-based waste management project initiated by local non-governmental organizations and adopted as a national programme) and in the Philippines through the EcoWaste Coalition, which strongly raised public awareness. The International Year of Sanitation 2008 not only raised awareness of the (individual) use of toilets but also of waste management as a whole.

B. Obstacles to and constraints on implementation

1. Lack of strategy, regulation and enforcement

25. Many developing countries still lack national strategies and regulations for the implementation of minimal eligible amounts and other international agreements, owing to a lack of human and technical capacity and resources.

26. Bad waste management negates many efforts with regard to the delivery of safe drinking water and to sanitation and hygiene education and makes it more difficult to reach Millennium Development Goal 7; it is, in effect, a disinvestment.

27. Landfills and other places for garbage disposal are often cleaned up by children and women under abysmal conditions, out of necessity. This work brings

[7] Examples include food additives, fuel catalysts, sporting goods, specialty building equipment, electronics, household appliances and sunscreens.

great health hazards, including for domestic animals that feed on such waste, thereby endangering food security as well.

28. Garbage heaps attract insects and other small animals that are sources of disease. Last but not least, seepage into groundwater can cause pollution and endanger sources of drinking water.

29. The status of workers in this industry, whether in developing or developed countries, is low. Pay, if any, is low, and no real appreciation is shown. If that changed, service would improve and the amount of waste would decrease.

30. The non-governmental organization WASTE developed a concept in which local caretakers are designated as focal points for waste collection. They get paid by the local community, and spillages on the streets decrease.

31. Many European countries have developed waste-separation practices. These are very effective, provided that the waste is not dumped together in one pile again after it leaves the area.

32. The Economic Commission for Europe Protocol on Water and Health could provide countries with excellent policy initiatives and action on the ground. A good example is the partnership of non-governmental organizations and the Government of the Republic of Moldova to work together on policy implementation and project development.

33. When it comes to sustainable consumption and production, recycling of solid waste and wastewater is one integral part of creating a solid environmental practice.

34. Decreasing the amount of food waste through awareness-raising among the general public is a powerful tool to reduce the waste of food and the use of packaging.

35. Composting excreta is a great contribution to waste management, food security and sound sanitation. In order to reach that goal, investing in education and eco-sanitation at a realistic level is a necessity.

2. Electronic waste

36. In spite of Rio Principle 14, 20 million to 50 million tons of electronic waste are transported to developing countries each year. This has resulted in an influx of toxic waste to these countries, causing contamination of land, water and people. Consequently, near-end-of-life and end-of-life electrical and electronic products are a growing concern, as is the resulting illegal transboundary movement of their hazardous constituents, such as heavy metals and brominated flame retardants (see SAICM/ICCM.2/15). Green design and extended producer responsibility have not been sufficiently implemented.

3. Dumping of illegal waste

37. Many developing countries and countries in transition face the ongoing threat of illegal waste dumping, while the quantity of hazardous wastes requiring special management and elimination is growing exponentially. Communities continue to deal with the runoff and emissions from stockpiles of hazardous waste and contaminated sites.

4. Incineration of municipal and medical wastes

38. A serious threat to human health and the environment is associated with the incineration of municipal and medical waste, owing to the release of dioxins and furans. Serious health and environmental concerns are also caused by the uncontrolled burning of waste on streets and burning landfills. Waste-diversion services are often weak or non-existent in developing countries and countries in transition. Plans to construct new waste-incineration plants in these countries are another cause for concern.

5. Insufficient waste reduction

39. More waste reduction and diversion could be achieved by a ban on recyclable materials in landfills, landfill disposal levies, penalties and certification, as well as green procurement to drive markets for recycled materials and the promotion of special collection programmes for hazardous municipal waste (such as single-use batteries, paints or lamps containing mercury). Waste-reduction programmes with specific targets at the source level should be promoted.

6. Plastics in the marine environment

40. With less than 5 per cent of plastic being recycled, much of it ends up joining the ocean vortices, as a result of direct dumping, transport in rivers or unsecured landfills. This has created enormous plastic "gyres" in the Pacific, Atlantic and Indian Oceans that contain and release toxic chemicals into the oceans. The Pacific Ocean plastic patch alone is twice the size of France. The United Nations estimates that marine plastic kills over a million seabirds and 100,000 mammals and sea turtles each year.

7. Waste management and carbon trading

41. From the climate change perspective, recent global trends in the area of financial mechanisms in the waste sector often jeopardize waste policies and strategies. Most developing countries have no comprehensive strategy for waste management and fail to show the complementary approaches of both decentralized and centralized approaches to waste management and setting targets for waste minimization in the future. Although most waste in developing countries has a low calorific value, waste-to-energy solutions, supported by carbon trading, are currently being promoted aggressively by investors. The burning of waste, however, using thermal treatment, will create small-particle pollutants, which are more harmful to human health, especially the health of children and pregnant women.

8. Use of nuclear waste as uranium ammunition

42. Uranium ammunition consists of depleted uranium. As a waste product of the uranium enrichment process, depleted uranium accrues worldwide in large quantities. U-238 is not only a radioactive alpha-particle emitter but also a chemical poison. Even low doses can damage internal organs, and higher concentrations cause heavy metal poisoning. Frequent miscarriages and genetic defects in newborns after the Kosovo war and in Iraq are attributed to the use of depleted uranium ammunition. Research indicates that the gene pool might be affected forever.

9. Negative human and environmental impacts connected with nuclear waste from enrichment plants

43. For every ton of enriched uranium, at least seven tons of depleted uranium hexafluoride (UF6) nuclear waste are created. From an economic perspective, re-enrichment of the material is much more expensive than mining for new natural uranium. For companies, it is primarily a convenient way to dispose of nuclear waste. Since 1996, a total of 27,000 tons of uranium waste from the German enrichment plant in Gronau has been deposited in the Russian Federation. Worldwide, an estimated 1.1 million tons of depleted uranium are stored at enrichment plants. Radioactive waste products carry the risk of leaking storage tanks, potentially releasing radioactivity into sources of groundwater and drinking water. In the surroundings of an enrichment plant in the Tomsk region of the Russian Federation, local life expectancy is only about 48 years; Russian researchers have linked this to radioactive contamination. Plutonium recovered during reprocessing is principally weapons-grade material, which can be misused for military purposes.

10. Uranium waste transports are dangerous

44. The nuclear waste that results from uranium enrichment is transported largely unprotected through large metropolitan and suburban areas. Most radioactive waste is transported from Western Europe to the Russian Federation. The uranium is transported as gaseous UF6. Highly explosive, toxic corrosive hydrofluoric acid would be released if UF6 were to leak and come into contact with humidity.

11. Radioactive waste effluents enter the sea

45. Radioactive liquids stored for cooling at reprocessing plants regularly leak into the ocean or escape into the air. Several dangerous incidents have occurred at the plant in Sellafield in the United Kingdom of Great Britain and Northern Ireland. Owing to the coastal locations of two European reprocessing plants (La Hague in France and Sellafield in the United Kingdom), adjacent coastal seas are permanently contaminated with radionuclides. Germany's Federal Maritime and Hydrographic Agency estimates the amount of plutonium in the Irish Sea to be 200 kg (the production of an atomic bomb only requires 5 kg of plutonium).

C. Challenges

1. Fluorescent light bulbs

46. Cost-effective substitutes are not yet available for some products that contain mercury, such as fluorescent light bulbs. These bulbs are in great demand owing to energy-saving and energy-efficiency needs. Growing amounts of used and broken bulbs are a big problem in developing countries and countries in transition since these countries lack proper systems of waste diversion and waste collection.

2. Recycling of wastes containing persistent organic pollutants

47. Two commercial mixtures of brominated flame retardants (penta-BDE and octa-BDE) were added to the Stockholm Convention at the Conference of the Parties in May 2009. Under the Stockholm Convention, wastes that contain persistent organic pollutants cannot be recovered, recycled, reclaimed or directly reused. The

listing of penta-BDE and octa-BDE was accompanied by an exemption that will allow their recycling to continue until 2030.

IV. Mining

A. Concrete action by non-governmental organizations, as well as the women sector, since the adoption of the Johannesburg Plan of Implementation

48. At a preparatory meeting before the United Nations Framework Convention on Climate Change talks in Bangkok in September 2009, a declaration by women in Asia on climate change called for no mining in forest and ecologically sensitive areas, including coastal areas, and for making mining activities in all areas subject to strong and legal environmental and social regulations.

49. Women and girls constitute more than half of the death toll among people displaced by extractive industries such as mining. Women and children often lack the necessary knowledge and resources to protect themselves, and are often restricted in their actions by local culture.

50. To cite one example, uranium mining:

(a) Uranium mining is the starting point of nuclear fuel. Many civil society groups, especially women and indigenous people, are actively engaged in activities to raise awareness about the risks caused by uranium mining;

(b) Children and future generations are the most affected by radioactive contamination through uranium mining, and by the genetic pool being affected over the long term;

(c) Activities of civil society groups include advocacy work and awareness-raising among policymakers and the general public, especially with regard to radiation victims and opposition to new mining activities. Efforts have also been made in the area of research and science.

B. Obstacles to and constraints on implementation

1. Awareness of mining-related health problems

51. In many mining areas, either the material itself (e.g., uranium, asbestos and coltan) or the mining methods are toxic. This creates huge health risks for the mining workers, and also indirectly for their families (see below). Residues get into groundwater and rivers, influence the quality of drinking water and endanger swimmers and bathers.

2. Awareness of negative environmental impacts

52. The environment is also affected by the toxic materials used to extract mined substances. Since materials are often released through a washing-out process, the toxic substances contaminate groundwater, rivers and lakes, thus affecting people and animals indirectly. Mining requires large amounts of water, with possible negative effects on the livelihoods of local people. In some regions, the overexploitation of

water by the mining industry has caused desertification. In Africa, many mining resources are located in rainforest areas, and mining causes deforestation and loss of biodiversity.

53. Leaks in uranium mines can cause radioactive waste from the tailing basin to contaminate water sources and the air. This pollution will last for thousands of years, spread to neighbouring regions and threaten the health of millions of people.

3. Effects of mining on local communities

54. Often, in order to build a mine, land ownership is violated, whole villages are removed (creating the problem of internally displaced persons) or whole villages are built with minimal infrastructure, with almost only men living there. Both variations have a major impact on the people, their economies and their cultural identity and heritage; either variation leads to a further feminization of agriculture or a loss of production and to more households headed by females or by one parent.

55. Mining in many cases is very hazardous for the workers, as safety and health regulations are not upheld. Female workers often face violence and sexual assaults. Child labour is often still the rule, not the exception, in small-scale mining. Men returning home to visit are basically a huge health risk for women, bringing with them chemical dust, sexually transmitted diseases (including HIV/AIDS) and aggression, resulting in domestic violence.

4. Small-scale mining

56. Small-scale mining often involves hazardous child labour, negatively affecting the health and education of children. A 2007 report by the International Labour Organization on girls in mining, using data from 12 communities mining gold, diamonds and gemstones (often in family-based activities), states that the assumption that girls are only involved in prostitution and domestic work in mining communities is incorrect. Girls are involved in tasks related to the extraction, transportation and processing stages of mining, as well as in other mining-related jobs such as selling food and supplies to the miners. Girls often work in an environment of physical and sexual abuse, a result especially of alcohol consumption and the vulnerability of the girls. All activities related to small-scale mining are characterized by danger, especially those in and around the excavation zone. Girls in mining are exposed to long working days, contact with fine dust and toxic substances without having any protective equipment, a high risk of accidents and intense physical exertion. This environment can lead to serious illness and injury, with lifelong consequences or even death. Those working in the amalgamation stage of gold-mining are exposed to liquid and airborne mercury. There is a severe lack of understanding of the risks these child labourers face at work; however, data from the Niger shows that sensitization campaigns aimed at children, parents and community leaders regarding the dangers involved and the laws governing child labour in mining can effectively limit the extent of child work on the sites.[8]

[8] International Labour Organization, *Girls in Mining: Research Findings from Ghana, Niger, Peru and the United Republic of Tanzania* (Geneva, 2007); available from www.ilo.org/ipecinfo/product/viewProduct.do?productId=5304.

5. Human rights violations

57. Indigenous peoples are the most affected by mining, especially uranium mining, as about 70 per cent of uranium development areas are on lands owned by indigenous peoples. Since their way of life is strongly rooted in local ecosystems, radioactive contamination means the annihilation of not only their livelihoods, but often also their culture.

6. Undemocratic processes and corruption

58. The development of new mines is often accomplished through undemocratic processes, including corruption. In many countries, members of civil society who inform the public about mining activities put their jobs, possessions and lives at risk.

7. Compensation for damage and illness not internalized in costs

59. Mining companies have to bear the full liability for the whole mining process. This liability needs to include compensation for moving people away from mining areas, mining-related health problems and death. After the closing down of mining sites, companies need to be accountable for paying for the clean-up and replanting of the area. Mining companies might no longer exist after the closing down of their mines; they should therefore have to pay into a compensation fund from the start of their mining operations. Many mining companies have a bad record in these matters, however. This compensation fund should be global and independently operated and should pay for free legal advice to miners to claim their rights.

8. Mining profits leave the country

60. In many cases of mining operations in low-income countries, mining profits do not benefit the country itself. The country does, however, bear the costs of pollution, which can affect health and the economy for thousands of years.

9. Insufficient civil society participation in decision-making

61. Public participation in mining assessment and management is still inadequate and lacking in resources and commitment, which is inconsistent with Rio Principle 20. In many mining areas, information policies are very non-transparent, and meaningful public participation is impossible. Broad public consensus is often not used for decisions on the location of mining sites and on the legal conditions for the operations of mining companies. Local people often have the least influence on these decisions. Intimidation of local people by mining companies and/or Governments is often quite common.

C. Challenges

62. All decision-making processes regarding mining require the greater involvement of women, since they are often the most affected by mining activities.

63. More women are becoming miners themselves. Their personal safety needs to be protected through the enactment of clear health and safety guidelines, supported by awareness education with strict monitoring and evaluation systems for compliance.

64. The rights of local communities to control their local natural resources, share in mining profits and bring mining companies to court in cases of abuse need to be ensured by global and national legally binding agreements.

65. The rights of indigenous peoples need to be safeguarded. The United Nations Declaration on the Rights of Indigenous Peoples needs to be implemented.

66. A global liability framework needs to be created, one that ensures the accountability of the mining sector and compensation payments for damage. Governments need to ensure more corporate liability. Governments and mining companies have to be held responsible for their unsustainable mining practices, including for post-mining effects.

67. Multilateral and international financial institutes need to develop strict guidelines and control mechanisms in order to avoid financing mining projects that violate human rights and damage the environment, biodiversity and natural resources.

68. Owing to the increasing demand for energy, more uranium mining from both new and old mines will happen. Mining companies already cannot meet the global demand for uranium. Uranium reserves are not evenly spread around the globe. Demand for uranium used in power stations is increasing from countries that lack their own natural reserves. The main consumer countries have only limited national production and are increasingly dependent on imports to meet their needs. These nuclear transports pose issues for the countries through which they travel.

69. The safe closing of exploited uranium mines costs billions of dollars, which mostly has to be paid by the taxpayer.[9]

V. Transport

70. The critical importance of transport for economic and social development is an undeniable fact. Transport provides services to all sectors of a national economy and is a means for strengthening the economic and social integration of regions. Transport has enabled a globalization of the world economy, and international travel has become significantly easier and more affordable for a large proportion of the world's population. Transport and travel also have a very positive influence on interconnectivity, learning and development, elements that are essential to women and their empowerment.

[9] The shutdown of the Wismut Mines is a good example. In an area of 40 square km in the former German Democratic Republic, the third largest uranium mine in the world was built to provide raw material for nuclear weapons for the former Soviet Union. Uranium production did not cease until 1990. Wismut GmbH was assigned to rehabilitate a large contaminated area and to dispose of 5 million tons of radioactive waste. By 2010, the clean-up operations, with a budget of 6 billion euros of German Government funds, are supposed to be finished. Today, former workers are still fighting for the acceptance of their illnesses as industrial diseases. Only patients with lung or bronchial cancer have a chance of acceptance. Local residents have been exposed constantly to radioactive hazards from escaping radon gas. Radon levels of up to 1,000 times higher than usual have been measured in houses. If even in a highly developed country like Germany it is that difficult to deal properly with the clean-up and reclamation of uranium production facilities and surrounding areas, it is hard to imagine how a production shutdown in poorer regions would be dealt with.

71. There has been a remarkable shift in the way transport is perceived since the late nineteenth century. The major transport issues at the beginning of the twentieth century revolved around how to build roads, railways, ports and airports. These systems would make up the core transport networks that helped transform and globalize the economy. The economic development of those countries that industrialized first sparked rapid growth and a consumer demand for cars, and debates about transport shifted towards the issue of private ownership. Today we again see a definite shift, this time towards a greater concern about the environment and the necessity to reduce greenhouse gas emissions by the transport sector.

72. Improved transport has the potential to alleviate current environmental problems and certain health issues, such as the current obesity epidemic.

A. Obstacles to and constraints on implementation

1. Travel differences between women and men

73. Of course, the nature of transport varies greatly from one country to the next and also by gender. In developed countries, transport developments and increased gender equality have recently enabled women to become more mobile, contributing significantly to the increase in travel and energy consumption. The increasing importance of women travellers has implications for the ways in which transport policy must be reviewed in a time when sustainability has become a key issue. Cultural, social and economic changes have been significant for both genders, but particularly for women. Since 1969, the number of women in the workforce in the United States of America has increased by 122 per cent (compared with 47 per cent for men). At the same time, women continue to be the primary caretakers of household and family obligations.

74. Demographic change, new family structures and concerns about personal safety (with respect to danger on roads, walking late at night and cycling in the dark) are also contributing to a growing motorization of transport for women in developed countries. The combination of domestic and work responsibilities causes women to be more tied to a certain locality, which could imply that women make more local trips than men and that they value safe local streets, relatively clean air and low levels of traffic noise more than men.[10]

2. Transport in rural areas in developing countries

75. In rural areas, especially in developing countries, transport of goods and people takes up a large amount of time and physical effort, especially for women and girls. They need to ply roads daily as part of their domestic, trading and marketing activities. Rural areas are often characterized by isolation and impoverishment; women experience serious constraints on access to markets, social services and transport services.

[10] Root, Amanda Laurie Schintler and Kenneth Button, "Women, travel and the idea of 'sustainable transport'", *Transport Reviews*, vol. 20, No. 3 (1 July 2000), pp. 369-383.

3. Car dependency

76. Efficient transport networks allow for productive economies. The ability of an individual, village, town, city or nation to trade depends upon transport and communication links in order to access trading opportunities. This has led to many developed countries becoming extremely car-dependent, which has resulted in an increasingly sedentary lifestyle among their citizens. The majority of transport in developed countries depends upon the use of fossil fuels; increased car ownership has resulted in more air pollution and smog problems.

4. Road transport

77. Road transport is an important source of carbon dioxide (CO2) emissions. For example, transport is the only sector in the United Kingdom where CO2 emissions (25 per cent of the total) were higher in 2005 than 1990. The sector is on its way to overtake industry as the largest contributor to CO2 emissions in that country. Private car use generates nearly 43 per cent of carbon emissions from transport, followed by freight transport at 26 per cent. A quarter of car journeys are under two miles, and nearly two thirds are under five miles; more walking and cycling for these local journeys would both reduce CO2 emissions and dependence on oil.

B. Challenges

1. Intermediate means of transport

78. Intermediate means of transport, e.g., bicycles, wheelbarrows, handcarts and animal-drawn carts, can play an important role in reducing the burden on women in rural travel and thus increase their time to perform other activities, including going to school. Very few women and girls in developing countries own or have easy access to these intermediate means of transport, however.

2. Sustainable systems

79. Infrastructural projects must be enhanced with sustainable solutions, and safe public transport must be widely and easily accessible. Transport companies must invest in sustainable transport systems in developing countries. International programmes to stimulate sustainable transport by sea (e g., the project by Stichting De Noordzee and the Port of Rotterdam to adopt sustainability criteria for ships and shipping companies) should be supported.

80. As suggested in "Women, travel and the idea of 'sustainable transport'", women may make more local trips than men do, because of their priorities and responsibilities, so focusing on women in the areas of low-emission transport could be extremely beneficial, not only for their increased mobility but also for reducing the causes of the current overloading of the road network.

3. Future action

81. Efforts to address both sustainable transport issues and gender equality need to go hand in hand. Transport planning and development needs to take into account the mobility issues and needs of women. Current models of travel demand focus on travel time and monetary costs, but not necessarily on female-specific restraints and the difficulties associated with their day-to-day responsibilities. The needs of female

travellers are overlooked by traditional models of travel demand. Addressing these issues and developing a more female-oriented transport network is essential.

82. Attaining greater transport sustainability is the primary goal of the United Kingdom's leading sustainable transport charity, Sustrans; it aims to enable people to walk, cycle and use public transport much more, resulting in less congestion, pollution and danger on the roads for cyclists and pedestrians but also contributing to the overall health of people.

83. The main aims of Sustrans are to:

(a) Reduce the environmental and resource impacts of transport;

(b) Enable people to choose active travel more often;

(c) Provide car-free access to essential local services;

(d) Transform streets and public spaces into places for people to enjoy.

84. Sustrans works in three ways to achieve these aims:

(a) It creates public spaces that are focused on access, not mobility (e.g., through its National Cycle Network, Connect2, Links to Schools, Liveable Neighbourhoods and Art and the Travelling Landscape);

(b) It provides information and works directly with people to bring about behaviour change (TravelSmart, Bike It, Active Travel, DIY Streets);

(c) It influences Government policy by demonstrating that it is possible to change people's travel behaviour and by measuring the benefit of its work in terms of health, the environment, quality of life and value for money.

VI. Ten-year review of programmes of sustainable consumption and production

85. All citizens everywhere are empowered to act in relation to sustainable consumption and production, and are enabled to assume their rights and responsibilities in this respect.

86. Sustainable consumption and production has to be the framework for all short-, medium- and long-term strategies and policies, but it should be an action-oriented approach. The concept "cradle to cradle" can provide important guidance.

A. Background

87. The 2002 Johannesburg Plan of Implementation (chap. III, paras. 14 and 15) called on "Governments, relevant international organizations, the private sector and all major groups" to "play an active role in changing unsustainable consumption and production patterns", including through actions to:

> Encourage and promote the development of a 10-year framework of programmes in support of regional and national initiatives to accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, delinking economic growth and

environmental degradation through improving efficiency and sustainability in the use of resources and production processes and reducing resource degradation, pollution and waste. All countries should take action, with developed countries taking the lead.

88. There has been a great deal of confusion about what this section means, and the resulting Marrakech Process seems to have become a 10-year process of developing a framework for United Nations-coordinated activities, with the activities scheduled to start in 2012 after review by the Commission on Sustainable Development. Although all efforts to accelerate a shift towards sustainable consumption and production are certainly welcome, it is difficult to understand how this delayed time frame fits with the commitment made to "expediting the achievement of the time-bound, socio-economic and environmental targets contained therein" (Johannesburg Declaration on Sustainable Development, para. 36).

B. Concrete action by non-governmental organizations, as well as the women sector, since the adoption of the Johannesburg Plan of Implementation

89. Of course, in the meantime, there have been many initiatives by major groups, national Governments and international organizations to move towards a "green" economy.

90. Women's organizations, for example, have recently focused on the climate change negotiations, including consideration of the types of financing, technical assistance and capacity-building needed by women in developing countries to make effective contributions to mitigation and adaptation initiatives. The Global Gender and Climate Alliance has brought together representatives of women's organizations and non-governmental organizations, United Nations organizations and national Governments in a collaborative effort to promote sustainable production and consumption of food and energy.

91. At the sixteenth session of the Commission on Sustainable Development, women launched a new network of women agriculture ministers and leaders to connect women working at different levels, from ministers to women farmers, in building collaboration on sustainable agricultural production. As the main producers of staple crops, women are custodians of natural resources and are engaged in activities that generate agricultural and non-agricultural income. They therefore play a critical role in making a transition to sustainable agricultural economies.

C. Obstacles to and constraints on implementation

1. Industrialized countries versus developing countries

92. In industrialized countries, sustainable consumption and production often means using less, through conservation measures, increased efficiency and a shift to alternative technologies and approaches. In many developing countries, however, both production and consumption need to be increased in order to provide sustainable lifestyles and livelihoods while, at the same time, more alternatives are introduced. Large investments in technology, training and market development are needed to make these shifts.

2. Ownership of wealth

93. Economic initiative and the wealth that flows from it are important means for releasing human potential and promoting social cohesion. The moral and social legitimacy of resources depends ultimately on how such resources are used. The success of economic development programmes will thus depend upon a rigorous definition of the parameters of the ownership of wealth so as to avoid the pitfalls of both excessive State control and the unlimited accumulation of riches by relatively few.

3. Women are not a vulnerable group

94. The common mistake of seeing women as "vulnerable" and "disadvantaged" obscures the potential and capacity of women to innovate and be active agents of change in their families and communities. The seventeenth session of the Commission on Sustainable Development finally named women as "actors".

4. Invisibility of women

95. Meanwhile, much of women's work throughout the world involves unpaid activities to care for their families and sustain their communities, with little recognition or support from Governments or institutions. The invisibility of the contributions of women, and an overemphasis on market economics, mean that women are often overlooked in formal discussions about sustainable production and consumption. In order to use the full potential of all humans, it is important that women become more active in all fields of economic and social activity, and that men become more active in the fields of caring and nurturing. Economic structures and processes are needed that reflect cooperation, mutual aid and reciprocity.

5. Effects of economic pressures on women

96. Economic pressures have resulted in the disruption and dislocation of families and communities and the disappearance of diversified, ecologically sustainable small-scale agriculture, thus severely affecting women farmers. Society must develop new economic models shaped by insights that arise from an understanding of shared experience, from viewing human beings in relation to one another and from the recognition of the central role that family and community play in well-being. Economies should serve people's needs, and societies should not be expected to reformulate themselves to fit economic models. Economic systems should equip all people, especially women, with the means to cultivate the limitless potentialities of humans.

6. Women in decision-making

97. Women are often excluded from policymaking processes, and programmes that are "gender-neutral" can intensify already existing gender disparities between men and women in their economic, social and political roles. Women are major consumers who can play an active role in choosing sustainable products, provided they have the right information.

7. Lack of access to resources and training

98. Most critically, while the current emphasis is on green jobs and enterprises, in a number of countries women are hampered in undertaking sustainable production activities by their lack of legal rights, access to bank credit and ownership of or access to land and other natural resources. Many women, especially in developing countries, need on-demand capacity development and access to critical information in order to become effective participants in the transition to green economies.

D. Priority approaches and strategies

1. It is more than a technical or economic problem

99. Providing an adequate standard of living for everybody cannot be tackled solely as a technical or economic problem. Eliminating hunger and malnutrition, establishing food security, providing adequate shelter and achieving health for all requires a shift in values, a commitment to equity and justice and a corresponding reorientation of policies, goals and programmes at all levels.

2. Inclusion of women at all levels

100. In order for programmes to support the engagement of women in sustainable consumption and production initiatives, they need to include women in their design and implementation and to integrate the perspectives and recommendations of women. More engagement by women in sustainable livelihoods and green enterprises requires incentives, policies and funding sources specifically directed towards ensuring that women are included in relevant programmes.

3. Need for training, capacity-building and access to resources and information

101. While many Governments have committed to the promotion of an equal partnership between men and women in family, community and public life, individuals continue to struggle against the entrenched patterns of dominance and violence that characterize much of human interaction. Many women, especially in developing countries, need access to education and training, capacity development and critical information in order to become effective participants.

E. Further action

102. Within the proposed framework of programmes produced by the Marrakech Process, the critical programmes for women are those in the areas of technical assistance and finance.

103. United Nations agencies and other international institutions play an important role in focusing attention on the importance of the rights of women and their economic and social contributions to sustainable production and consumption practices. In addition, those institutions can work to target funding support from official development assistance towards programmes that recognize the substantial contributions of women to sustainable production and consumption patterns, that provide business training and technical support for women to encourage them to engage in green enterprises and that also help direct private investment flows into sustainable businesses run by women.

104. In particular, women can influence responsible buying and producing, provided they have been given relevant information. Women are the main consumer group, and empowering women to make responsible, considered decisions is important. Education that empowers consumers, including women and young people, to make responsible decisions is essential to changing consumer behaviour. Special attention should be paid to making a clear distinction between advertising (especially regarding "health claims") and the provision of reliable information. The role of the media, including the use of female role models, has to be improved, and the media must be used as an actor for transition.

105. Creating better sustainable products and transparent labelling should be promoted. Naming and praising is a strong tool for building awareness and promoting positive action. Strict product norms (such as those concerning the carbon footprint) are a good tool for increasing the choices available to consumers.